# CHAPTER IV RESEARCH FINDING AND DISCUSSION

This chapter covers are the data presentation, the analysis result and discussion.

#### A. The Data Presentation

In this section, it described the obtained data of the students' writing score after and before treatment by using FRIEND strategy. The presented data consisted of Mean, Standard Deviation, Standars Error, table and figure.

### 1. The Description Data of Pretest Score

The students' score distributed by the following table in order to analyze the students' ability before conducting the treatment. The writer combined the table score between first and second rater, and the next table for combining both of scores found averages of scores and found the final scores.

Table 4.1Pretest Score By the First Rater and Second Rater

|      |       | <b>Criteria Score of Writing Argumentative Text</b> |      |      |           |       |            |       |        |          |
|------|-------|---|------|------|-----------|-------|------------|-------|--------|----------|
| CODE | Cont. | Cont.   | Org. | Org. | Cohr.     | Cohr. | Gram.      | Gram. | Mec.R1 | Mec. R2  |
|      | R1    | R2  | R1   | R2   | <b>R1</b> | R2    | <b>R</b> 1 | R2    | Mec.KI | WICC. N2 |
| B01  | 13    | 13  | 19   | 21   | 12        | 13    | 16         | 17    | 3      | 3        |
| B02  | 15    | 17  | 18   | 20   | 13        | 13    | 14         | 16    | 3      | 3        |
| B03  | 12    | 13  | 19   | 19   | 13        | 13    | 14         | 17    | 3      | 3        |
| B04  | 15    | 16  | 18   | 19   | 14        | 13    | 13         | 16    | 3      | 3        |
| B05  | 12    | 14  | 20   | 20   | 11        | 14    | 16         | 17    | 3      | 3        |

| B06 | 13 | 15         | 22    | 22 | 14  | 14  | 14 | 18 | 4 | 4 |
|-----|----|------------|-------|----|-----|-----|----|----|---|---|
| B08 | 15 | 14         | 16    | 20 | 13  | 13  | 16 | 17 | 3 | 3 |
| B09 | 15 | 16         | 21    | 22 | 14  | 15  | 17 | 18 | 4 | 4 |
| B10 | 13 | 12         | 18    | 20 | 12  | 13  | 14 | 16 | 3 | 3 |
| B12 | 14 | 13         | 18    | 20 | 12  | 13  | 13 | 17 | 3 | 3 |
| B13 | 12 | 12         | 17    | 20 | 12  | 12  | 16 | 17 | 3 | 3 |
| B14 | 13 | 14         | 22    | 21 | 13  | 14  | 14 | 17 | 4 | 4 |
| B15 | 14 | 14         | 20    | 20 | 13  | 13  | 15 | 15 | 3 | 3 |
| B16 | 12 | 15         | 20    | 23 | 12  | 15  | 16 | 17 | 4 | 4 |
| B17 | 12 | 13         | 19    | 20 | 13  | 13  | 15 | 17 | 3 | 3 |
| B20 | 14 | 16         | 24    | 26 | 15  | 13  | 14 | 16 | 3 | 3 |
| B21 | 14 | 14         | 18    | 21 | 14  | 13  | 17 | 19 | 4 | 4 |
| B22 | 13 | 14         | 20    | 20 | 13  | 13  | 15 | 16 | 3 | 3 |
| B23 | 13 | 16         | 20    | 21 | 14  | 15  | 18 | 17 | 4 | 4 |
| -   |    | <b>T</b> 1 | 1 1 1 | •  | 1 . | . 1 |    |    |   | 1 |

The table above is combination each components of pretest score by

first rater (R1) and second Rater (R2). And the next table, the writer

combines the score become the final score.

### Table 4.2

# The Combination of Pretest Score

| CODE | Scor | Final |       |
|------|------|-------|-------|
| CODE | RI   | RII   | Score |
| B01  | 63   | 67    | 65    |
| B02  | 63   | 69    | 66    |
| B03  | 61   | 65    | 63    |
| B04  | 63   | 67    | 65    |
| B05  | 62   | 68    | 65    |
| B06  | 67   | 73    | 70    |
| B08  | 63   | 67    | 65    |
| B09  | 71   | 75    | 73    |
| B10  | 60   | 64    | 62    |

| B12            | 60   | 66   | 63   |
|----------------|------|------|------|
| B13            | 60   | 64   | 62   |
| B14            | 66   | 70   | 68   |
| B15            | 65   | 65   | 65   |
| B16            | 64   | 74   | 69   |
| B17            | 62   | 66   | 64   |
| B20            | 70   | 74   | 72   |
| B21            | 67   | 71   | 69   |
| B22            | 64   | 66   | 65   |
| B23            | 69   | 73   | 71   |
| <b>Sum (∑)</b> | 1220 | 1304 | 1262 |
| Average        | 64.2 | 68.6 | 66.4 |
| Lowest         | 60   | 64   | 62   |
| Highest        | 71   | 75   | 73   |

Based on the data from combination pretest score of first rater (R1) and second rater (R2), it shows the highest score is 73, the lowest score is 62 and average is 66.4. After that, the writer used table Frequency Distribution of the Pretest Score.

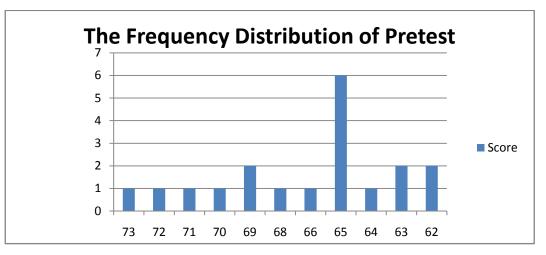
Table 4.3Frequency Distribution of the Pretest Score

| Score (X) | Frequency (F) |
|-----------|---------------|
| 73        | 1             |
| 72        | 1             |
| 71        | 1             |
| 70        | 1             |
| 69        | 2             |
| 68        | 1             |
| 66        | 1             |
| 65        | 6             |

| 64    | 1     |
|-------|-------|
| 63    | 2     |
| 62    | 2     |
| Total | ∑F=19 |

The table explains about the distribution of students' pretest score that shows the frequency in each scores with the total frequency is 19 seem like the total number of students. Next, the data can also be seen in the following figure.

Figure 4.1 The Distribution of Pretest Score



Based on the figure above about the distribution of pretest score that there were seven students each person got score 73, 72,71,70,68, 66, and 64. There were three students each person got csore 69, 63, and 62. There was one students got score 65.

## 2. The Data Presentation of Posttest

The students' score distributed by following table in order to analyze the students' ability before conducting the treatment. . The writer combines

the table score between first and second rater, and the next table for combining both of scores found averages of scores and found the final scores.

### Table 4.4

|      |           | Criteria Score of Writing Argumentative Text |           |      |           |       |           |       |         |      |
|------|-----------|--|-----------|------|-----------|-------|-----------|-------|---------|------|
| CODE | Cont.     | Cont.  | Org.      | Org. | Cohr.     | Cohr. | Gram.     | Gram. | Mec.R1  | Mec. |
|      | <b>R1</b> | R2   | <b>R1</b> | R2   | <b>R1</b> | R2    | <b>R1</b> | R2    | wiec.KI | R2   |
| B01  | 14        | 15   | 20        | 20   | 16        | 17    | 16        | 17    | 3       | 3    |
| B02  | 19        | 18   | 22        | 22   | 17        | 16    | 19        | 18    | 4       | 4    |
| B03  | 18        | 18   | 21        | 22   | 18        | 17    | 17        | 18    | 3       | 3    |
| B04  | 19        | 18   | 24        | 23   | 17        | 18    | 20        | 20    | 4       | 4    |
| B05  | 18        | 18   | 23        | 23   | 17        | 18    | 19        | 19    | 4       | 4    |
| B06  | 17        | 18   | 22        | 22   | 17        | 18    | 17        | 18    | 3       | 4    |
| B08  | 19        | 18   | 22        | 22   | 17        | 17    | 19        | 18    | 4       | 4    |
| B09  | 19        | 18   | 25        | 22   | 18        | 17    | 20        | 18    | 4       | 3    |
| B10  | 18        | 18   | 23        | 23   | 17        | 18    | 21        | 20    | 4       | 4    |
| B12  | 19        | 18   | 24        | 23   | 18        | 18    | 20        | 20    | 4       | 4    |
| B13  | 15        | 16   | 21        | 21   | 17        | 17    | 18        | 18    | 3       | 3    |
| B14  | 18        | 18   | 22        | 24   | 17        | 18    | 20        | 20    | 4       | 4    |
| B15  | 17        | 17   | 23        | 22   | 16        | 16    | 18        | 17    | 4       | 4    |
| B16  | 18        | 17   | 21        | 21   | 15        | 14    | 17        | 17    | 3       | 3    |
| B17  | 18        | 18   | 22        | 22   | 17        | 17    | 18        | 18    | 4       | 4    |
| B20  | 19        | 18   | 23        | 23   | 18        | 18    | 19        | 21    | 3       | 3    |
| B21  | 18        | 18   | 24        | 25   | 18        | 18    | 20        | 21    | 4       | 4    |
| B22  | 14        | 15   | 21        | 22   | 16        | 17    | 17        | 17    | 4       | 4    |
| B23  | 17        | 16   | 22        | 22   | 14        | 14    | 17        | 17    | 4       | 4    |

Posttest Score By the First Rater and Second Rater

The table above is combination each components of posttest score by first rater (R1) and second Rater (R2). And the next table, the writer combines the score becomes the final score.

| The Combanition of Posttest Score |       |       |       |  |  |
|-----------------------------------|-------|-------|-------|--|--|
| CODE                              | Score | Score |       |  |  |
|                                   | RI    | RII   | Score |  |  |
| B01                               | 69    | 72    | 71    |  |  |
| B02                               | 81    | 78    | 80    |  |  |
| B03                               | 77    | 78    | 78    |  |  |
| B04                               | 84    | 83    | 84    |  |  |
| B05                               | 81    | 82    | 82    |  |  |
| B06                               | 76    | 80    | 78    |  |  |
| B08                               | 81    | 79    | 80    |  |  |
| B09                               | 86    | 78    | 82    |  |  |
| B10                               | 83    | 83    | 83    |  |  |
| B12                               | 85    | 83    | 84    |  |  |
| B13                               | 74    | 75    | 75    |  |  |
| B14                               | 81    | 84    | 83    |  |  |
| B15                               | 78    | 76    | 77    |  |  |
| B16                               | 74    | 72    | 73    |  |  |
| B17                               | 79    | 79    | 79    |  |  |
| B20                               | 82    | 83    | 83    |  |  |
| B21                               | 84    | 86    | 85    |  |  |
| B22                               | 72    | 75    | 74    |  |  |
| B23                               | 74    | 73    | 74    |  |  |
| <b>Sum (∑)</b>                    | 1501  | 1499  | 1505  |  |  |
| Average                           | 79    | 78.9  | 79.2  |  |  |
| Lowest                            | 69    | 72    | 71    |  |  |
| Highest                           | 86    | 86    | 85    |  |  |

# The Combanition of Posttest Score

Table 4.5

Based on the data from combination pretest score of first rater (R1) and second rater (R2), it shows the highest score is 85, the lowest score is 71 and average is 78.9. After that, the writer used table Frequency Distribution of the Posttest Score.

| 1 5       |               |
|-----------|---------------|
| Score (X) | Frequency (F) |
| 71        | 1             |
| 73        | 1             |
| 74        | 2             |
| 75        | 1             |
| 77        | 1             |
| 78        | 2             |
| 79        | 1             |
| 80        | 2             |
| 82        | 2             |
| 83        | 3             |
| 84        | 2             |
| 85        | 1             |
| Total     | ∑F=19         |
|           | •             |

Table 4.6Frequency Distribution of the Pretest Score

The distribution of students' posttest score can also be seen in the following figure of the distribution of posttest.

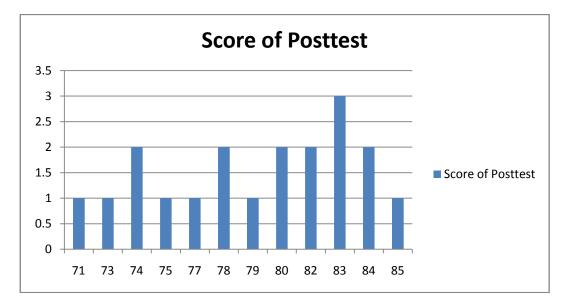


Figure 4.2 The Distribution of Posttest Score

Based on the figure above about the distribution of pretest score that there are six students each person get score 71, 73, 75, 77, 79, and 85. There are ten students each two people get csore 74, 78, 80, 82, and 84. There are three students get score 83.

### 3. The Data Comparing of Pretest and Posttest

In this study, the writer showed the improvement of students' score used table improvement.

### Table 4.7

The Improvement of Students' Score

| CODE | (X) | (Y) | Improvement |
|------|-----|-----|-------------|
| B01  | 65  | 71  | 6           |
| B02  | 66  | 80  | 14          |
| B03  | 63  | 78  | 15          |

| B04            | 65   | 84   | 19   |
|----------------|------|------|------|
| B05            | 65   | 82   | 17   |
| B06            | 70   | 78   | 8    |
| B08            | 65   | 80   | 15   |
| B09            | 73   | 82   | 9    |
| B10            | 62   | 83   | 21   |
| B12            | 63   | 84   | 21   |
| B13            | 62   | 75   | 13   |
| B14            | 68   | 83   | 15   |
| B15            | 65   | 77   | 12   |
| B16            | 69   | 73   | 4    |
| B17            | 64   | 79   | 15   |
| B20            | 72   | 83   | 11   |
| B21            | 69   | 85   | 16   |
| B22            | 65   | 74   | 9    |
| B23            | 71   | 74   | 3    |
| <b>Sum (∑)</b> | 1262 | 1505 | 243  |
| Average        | 66,4 | 79,2 | 12,9 |
| Lowest         | 62   | 73   | 3    |
| Highest        | 73   | 85   | 21   |

Based on the data above, it is almost all of students experienced improvement score from pretest to posttest. The highest score was 3 and the lowest score was 21.

The writer showed each student experienced improve that by grafic below.

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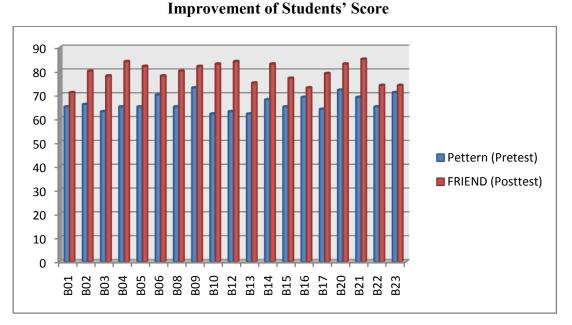


Figure 4.3

Based on the figure above about the improvement of students' score that there were average experienced improving level of score from 3 to 21 point.

# **B.** The Analysis Result

# 1. Analysis Result of Pretest and Posttest

a) Normality of Pretest and Posttest

The writer calculated normality of pretest and posttest used One

Sample Kolmogrov-Smirnov Test by SPSS.

### Table 4.8

#### **Testing Normality of Pretest**

|                                |                | Pretest |
|--------------------------------|----------------|---------|
| Ν                              | -              | 19      |
| Normal Parameters <sup>a</sup> | Mean           | 78.68   |
|                                | Std. Deviation | 4.385   |
| Most Extreme                   | Absolute       | .144    |
| Differences                    | Positive       | .120    |
|                                | Negative       | 144     |
| Kolmogorov-Smirnov             | Z              | .626    |
| Asymp. Sig. (2-tailed)         |                | .828    |
| a. Test distribution is N      | Normal.        |         |

### **One-Sample Kolmogorov-Smirnov Test**

The next step, the writer analyzed normality of data used formula as follows:

If significance > 0.05 = data is normal distribution

If significance < 0.05 = data is not normal distribution

Based on data above, the significant data of experimental group used Kolmogorov-Smirnov is 0.828 > 0.05. It could be concluded the data is normal distribution.

| Table 4.9                            |
|--------------------------------------|
| <b>Testing Normality of Posttest</b> |

|                                |                | Posttest      |                     |
|--------------------------------|----------------|---------------|---------------------|
| N                              | -              | 19            |                     |
| Normal Parameters <sup>a</sup> | Mean           | 79.21         |                     |
|                                | Std. Deviation | 4.250         |                     |
| Most Extreme                   | Absolute       | .165          |                     |
| Differences                    | Positive       | .102          |                     |
|                                | Negative       | 165           |                     |
| Kolmogorov-Smirnov             | Z              | .720          |                     |
| Asymp. Sig. (2-tailed)         |                | .677          |                     |
| a. Test distribution is l      | Normal.        | calculating u | sing SPSS 16.0 prog |

a. Test distribution is Normal.

The next step, the writer analyzed normality of data used formula

as follows:

If significance > 0.05 = data is normal distribution

If significance < 0.05 = data is not normal distribution

Based on data above, the significant data of experimental group

used Kolmogorov-Smirnov is 0.677 > 0.05. It could be concluded the

data is normal distribution.

b) Homogeinity of Pretest and Posttest

**Table 4.10 Testing Homogeneity of Variances** 

| Levene Statistic  | df1 | df2 | Sig. |
|-------------------|-----|-----|------|
| .991 <sup>a</sup> | 3   | 8   | .444 |

The table represents the result of homogeneity test calculation used the SPPSS 16.0 program. Knowing the homogeneity of data, the formula could be seen as follows:

If 0.05 > Sig. = Not homogeny distribution

If 0.05 < Sig = Homogeny distribution

Based on data above, the significant data is 0.44The result 0.05 < 0.546, it means the test t-test calculation used at the equal variances assumed or data is Homogeny distribution.

c) Validity of Pretest and Posttest

In this study, writer calculated validity of pretest and posttest using Pearson Product Moment Correlation Test.

| CODE | Rater I    | Rater II | XY   | X <sup>2</sup> | Y <sup>2</sup> |
|------|------------|----------|------|----------------|----------------|
| (N)  | <b>(X)</b> | (Y)      |      |                |                |
| B01  | 63         | 67       | 4221 | 3969           | 4489           |
| B02  | 63         | 69       | 4347 | 3969           | 4761           |
| B03  | 61         | 65       | 3965 | 3721           | 4225           |
| B04  | 63         | 67       | 4221 | 3969           | 4489           |
| B05  | 62         | 68       | 4216 | 3844           | 4624           |
| B06  | 67         | 73       | 4891 | 4489           | 5329           |
| B08  | 63         | 67       | 4221 | 3969           | 4489           |
| B09  | 71         | 75       | 5325 | 5041           | 5625           |
| B10  | 60         | 64       | 3840 | 3600           | 4096           |
| B12  | 60         | 66       | 3960 | 3600           | 4356           |
| B13  | 60         | 64       | 3840 | 3600           | 4096           |

**Table 4.11** 

**Pearson Product Moment Correlation of Pre-test** 

| B14   | 66      | 70              | 4620      | 4356               | 4900                   |
|-------|---------|-----------------|-----------|--------------------|------------------------|
| D14   | 00      | 70              | 4020      | 4550               | 4900                   |
| B15   | 65      | 65              | 4225      | 4225               | 4225                   |
| B16   | 64      | 74              | 4736      | 4096               | 5476                   |
| B17   | 62      | 66              | 4092      | 3844               | 4356                   |
| B20   | 70      | 74              | 5180      | 4900               | 5476                   |
| B21   | 67      | 71              | 4757      | 4489               | 5041                   |
| B22   | 64      | 66              | 4224      | 4096               | 4356                   |
| B23   | 69      | 73              | 5037      | 4761               | 5329                   |
| ∑N=19 | ∑X=1220 | ∑ <b>Y=1304</b> | ∑XY=83918 | $\sum X^2 = 78538$ | ∑Y <sup>2</sup> =89738 |

$$\mathbf{r}_{\mathbf{x}\mathbf{y}} = \frac{\mathbf{N}\boldsymbol{\Sigma}\mathbf{X}\mathbf{Y} - (\boldsymbol{\Sigma}\mathbf{X})(\boldsymbol{\Sigma}\mathbf{Y})}{\sqrt{\{\mathbf{N}\boldsymbol{\Sigma}\mathbf{X}^2 - (\boldsymbol{\Sigma}\mathbf{X})^2\}\{\mathbf{N}\boldsymbol{\Sigma}\mathbf{Y}^2 - (\boldsymbol{\Sigma}\mathbf{Y})^2\}}}$$

$$\mathbf{r_{xy}} = \frac{\mathbf{19.83918} - (1220)(1304)}{\sqrt{\{19.78538} - (1220)^2\}\{\mathbf{19.89738} - (\mathbf{1304})^2\}}$$

$$r_{xy} = \frac{1594442 - 1590880}{\sqrt{\{1.492.222} - 1.488.400\}\{1.705.022 - 1.700.416\}}$$

$$\mathbf{r_{xy}} = \frac{\mathbf{3562}}{4195.7}$$

$$\mathbf{r_{xy}} = 0.84896 \text{ or } 0.849$$

The result of test took by rater I and rater II. And the writer accounted the degree of freedom (df) with formula:

$$Df = N-nr$$
$$= 19-2$$
$$= 17$$

Based on the result, it find that the value of " $r_{xy}$ " is 0.849 than value of " $r_{table}$ " at the 1% significance level or 0.849 > 0.575. It means the test is valid and include at level of very high validity.

| rearson rrouger woment correlation of rost-test |                |                 |            |                     |                     |  |
|---|----------------|-----------------|------------|---------------------|---------------------|--|
| CODE<br>(N)                                     | Rater I<br>(X) | Rater II<br>(Y) | XY         | X <sup>2</sup>      | Y <sup>2</sup>      |  |
| B01   | 69             | 72              | 4968       | 4761                | 5184                |  |
| B02   | 81             | 78              | 6318       | 6561                | 6084                |  |
| B03   | 77             | 78              | 6006       | 5929                | 6084                |  |
| B04   | 84             | 83              | 6972       | 7056                | 6889                |  |
| B05   | 81             | 82              | 6642       | 6561                | 6724                |  |
| B06   | 76             | 80              | 6080       | 5776                | 6400                |  |
| B08   | 81             | 79              | 6399       | 6561                | 6241                |  |
| B09   | 86             | 78              | 6708       | 7396                | 6084                |  |
| B10   | 83             | 83              | 6889       | 6889                | 6889                |  |
| B12   | 85             | 83              | 7055       | 7225                | 6889                |  |
| B13   | 74             | 75              | 5550       | 5476                | 5625                |  |
| B14   | 81             | 84              | 6804       | 6561                | 7056                |  |
| B15   | 78             | 76              | 5928       | 6084                | 5776                |  |
| B16   | 74             | 72              | 5328       | 5476                | 5184                |  |
| B17   | 79             | 79              | 6241       | 6241                | 6241                |  |
| B20   | 82             | 83              | 6806       | 6724                | 6889                |  |
| B21   | 84             | 86              | 7224       | 7056                | 7396                |  |
| B22   | 72             | 75              | 5400       | 5184                | 5625                |  |
| B23   | 74             | 73              | 5402       | 5476                | 5329                |  |
| ∑N=19   | ∑X=1501        | ∑Y=1499         | ∑XY=118720 | $\sum X^2 = 118993$ | $\sum Y^{2}=118589$ |  |

Table 4.12Pearson Product Moment Correlation of Post-test

$$\mathbf{r}_{\mathbf{x}\mathbf{y}} = \frac{\mathbf{N}\Sigma\mathbf{X}\mathbf{Y} - (\Sigma\mathbf{X})(\Sigma\mathbf{Y})}{\sqrt{\{\mathbf{N}\Sigma\mathbf{X}^2 - (\Sigma\mathbf{X})^2\}\{\mathbf{N}\Sigma\mathbf{Y}^2 - (\Sigma\mathbf{Y})^2\}}}$$

$$r_{xy} = \frac{19.118720 - (1501)(1499)}{\sqrt{19.118993} - (1501)^2 \{ 19.118589 - (1499)^2 \}}$$

$$r_{xy} = \frac{2255680 - 2249999}{\sqrt{2260867} - 2253001} \{ 2253191 - 2247001 \}$$

$$\mathbf{r_{xy}} = \frac{\mathbf{5681}}{\sqrt{\{\ 7866\ }\}\{\mathbf{6190}\}}$$
$$\mathbf{r_{xy}} = \frac{\mathbf{5681}}{6977.9}$$
$$\mathbf{r_{xy}} = 0.814$$

The result of test took by rater I and rater II. And the writer accounted the degree of freedom (df) with formula:

$$df = N-nr$$
$$= 19-2$$
$$= 17$$

Based on the result, it finds that the value of " $r_{xy}$ " was 0.814 than value of " $r_{table}$ " at the 1% significance level or 0.814.> 0.575. It means the test is valid and include at level of very high validity.

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## d) Reliability of Pretest and Posttest

### **Table 4.13**

### **The Item-Total Statistics of Pretest**

| -    |               | Scale        | Corrected   | Cronbach's    |
|------|---------------|--------------|-------------|---------------|
|      | Scale Mean if | Variance if  | Item-Total  | Alpha if Item |
|      | Item Deleted  | Item Deleted | Correlation | Deleted       |
| Cont | 52.605        | 8.044        | .318        | .603          |
| Org  | 46.316        | 5.561        | .399        | .619          |
| Cohr | 53.211        | 7.592        | .862        | .419          |
| Gram | 50.447        | 9.386        | .164        | .665          |
| Mec  | 63.105        | 9.211        | .666        | .543          |

**Item-Total Statistics** 

#### **Table 4.14**

### The Reliability Statistic of Pretest

#### **Reliability Statistics**

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .625             | 5          |

The result of  $r_{11} = 0.625$  with 5 items and  $r_{table}$  of Product Moment is df= N- 1; 19 - 2 = 17, the level of significant 1%, so  $r_{table} = 0.575$ .

Clearly at the criteria :

If  $r_{11} > r_{table}$  it means reliable

If  $r_{11} < r_{table}$  it means unreliable

Based on the calculating above, the result is if  $r_{11}$ = 0.625 >  $r_{table}$  =

0.575, it concludes that the first item (Pretest) is reliable.

#### **Table 4.15**

#### **The Item-Total Statistics of Posttest**

|      | Scale Mean if<br>Item Deleted |        | Corrected<br>Item-Total<br>Correlation | Cronbach's<br>Alpha if Item<br>Deleted |
|------|-------------------------------|--------|--|--|
| Cont | 61.421                        | 11.118 | .650                                   | .805                                   |
| Org  | 56.553                        | 11.108 | .848                                   | .743                                   |
| Cohr | 61.974                        | 12.846 | .565                                   | .823                                   |
| Gram | 60.368                        | 9.468  | .888                                   | .721                                   |
| Mec  | 75.263                        | 17.038 | .294                                   | .874                                   |

### **Item-Total Statistics**

# **Table 4.16**

### The Reliability Statistic of Posttest

| <b>Reliability Statistics</b> |            |  |  |  |
|-------------------------------|------------|--|--|--|
| Cronbach's Alpha              | N of Items |  |  |  |
| .837                          | 5          |  |  |  |

The result of  $r_{11} = 0.837$  with 5 items and  $r_{table}$  of Product Moment

is df= N- 1; 19 – 2 = 17, the level of significant 1%, so  $r_{table} = 0.575$ .

Clearly at the criteria :

If  $r_{11} > r_{table}$  it means reliable

If  $r_{11} < r_{table}$  it means unreliable

Based on the calculating above, the result is If  $r_{11} = 0.837 > r_{table} =$ 

0.575, it concludes that the second item (Posttest) is reliable.

# 2. Analysis of Testing Hypothesis

In this study, the writer showed the table of students' score and calculated scores finding the testing hypothesis used Paired Sample T Test by manual calculating and SPSS 16.0 Program.

a) Testing Hypothesis Using Manual Calculating

### **Table 4.17**

### The Table of Students' Score

| CODE   | (X)  | (Y)  | $\mathbf{D} = (\mathbf{Y} \mathbf{-} \mathbf{X})$ | $\mathbf{D}^2$ |
|--------|------|------|---|----------------|
| B01    | 65   | 71   | 6   | 36             |
| B02    | 66   | 80   | 14  | 196            |
| B03    | 63   | 78   | 15  | 225            |
| B04    | 65   | 84   | 19  | 361            |
| B05    | 65   | 82   | 17  | 289            |
| B06    | 70   | 78   | 8   | 64             |
| B08    | 65   | 80   | 15  | 225            |
| B09    | 73   | 82   | 9   | 81             |
| B10    | 62   | 83   | 21  | 441            |
| B12    | 63   | 84   | 21  | 441            |
| B13    | 62   | 75   | 13  | 169            |
| B14    | 68   | 83   | 15  | 225            |
| B15    | 65   | 77   | 12  | 144            |
| B16    | 69   | 73   | 4   | 16             |
| B17    | 64   | 79   | 15  | 225            |
| B20    | 72   | 83   | 11  | 121            |
| B21    | 69   | 85   | 16  | 256            |
| B22    | 65   | 74   | 9   | 81             |
| B23    | 71   | 74   | 3   | 9              |
| Sum(∑) | 1262 | 1505 | 243   | 3605           |

1) Mean

$$M = \frac{\sum D}{N} = \frac{243}{19} = 12.789$$

2) Calculating Standard Deviation of Differences

$$SD = \sqrt{\frac{\sum D2}{N} - \frac{(\sum D)2}{(N)}}$$
$$= \sqrt{\frac{3605}{19} - \frac{(243)2}{(19)}}$$
$$= \sqrt{189.737 - 163.571}$$
$$= 5.115$$

3) Calculating Standard Error

SEMD = 
$$\frac{\text{SD}}{\sqrt{N-1}}$$
  
=  $\frac{5.115}{\sqrt{19-1}}$   
=  $\frac{5.115}{4.243}$   
= 1.205

The calculating above refers to the result of the mean calculation of experiment group is 12.789, standard deviation is 5.115 and the result of standard error is 1.205 to verify the hypothesis, the writer used the formula as follow:

$$t_o = \frac{MD}{SE MD}$$
  
=  $\frac{12.789}{1.205}$   
= 10.613

df = 
$$(N-2)$$
  
= 19-2  
= 17

The writer interpreted of hypothesis with the result of mean, standard deviation, standard error,  $t_{o}$ , and df of the data to get the  $t_{observed}$ . The result of  $t_{observed}$  compared by  $t_{table}$  for finding the significant level. The result of T-Test shows on the table.

Table 4.18The Result of T-Test Using Manual Calculation

|                       | t <sub>table</sub>           | 10 |
|-----------------------|------------------------------|----|
| t <sub>observed</sub> | $5\% < t_{observed} > 1\%$   | df |
| 10.613                | $2.11 < t_{observed} > 2.90$ | 17 |

The table shows the result of T-Test using Manual Calculation that interpreting is  $t_{observed}$ ; 10.613 is higher than  $t_{table}$  at the 5% level on 2.11 or 10.613> 2,11 and at the 1% level on 2.90 or 10.613> 2.90. It means that Ha is accepted and Ho is rejected. Based on the result of calculation, there is significant effect of "FRIEND" Strategy on Writing Skill in Argumentative Essay Development at Fourth Semester Students of English Education Study Program at IAIN Palangka Raya.

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### b) Testing Hypothesis Using SPSS 16.0 Program

### **Table 4.19**

### The Result of Paired Samples Test Using SPSS 16.0 Program

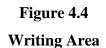
|              | Paired Differences |        |       |                                   |         |         |    |                 |
|--------------|--------------------|--------|-------|-----------------------------------|---------|---------|----|-----------------|
|              |                    |        |       | 95% Confidence<br>Interval of the |         |         |    |                 |
|              |                    | Std.   | Std.  |                                   |         |         |    |                 |
|              |                    | Deviat | Error | Difference                        |         |         |    |                 |
|              | Mean               | ion    | Mean  | Lower                             | Upper   | t       | df | Sig. (2-tailed) |
| Pair 1 X - Y | -12.789            | 5.255  | 1.206 | -15.323                           | -10.256 | -10.608 | 18 | .000            |

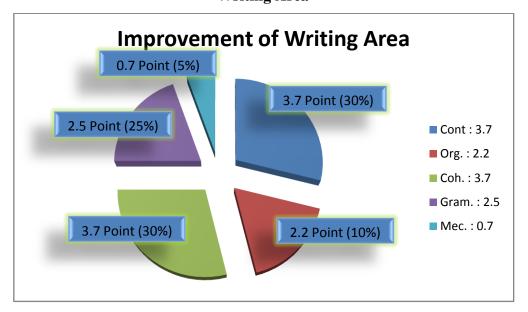
The calculating data by SPSS 16.0 program represents result with statically mean is 12.789, Standard Deviation is 5.255, Standard Error is 1.206, and t test is 10.608.

Based on compared between both of them, it found from statically of the result using FRIEND more effective than patterns. It can be seen on the product writing result of students.

### 3. The Area of Writing Improvement FRIEND Strategy

The writer represented area using pie chart that made the result of writing more clearly.





It calculates from average of pretest and posttest data and finally find the different both of datum. It shows the improvement of writing of content is 3.7 point on 30%, organization is 2.2 point on 10%, coherent is 3.7 point on 30%, grammar is 2.5% point on 25%, and mechanic is 0.7 point on 5%.

#### C. Discussion

The result of data analysis shows that is of calculation stating that there is significant effect of "FRIEND" Strategy on Writing Skill in Argumentative Essay Development at Fourth Semester Students of English Education Study Program at IAIN Palangka Raya. The students that before teaching of treatment uses point by point pattern or block pattern reached lowest score than using FRIEND Strategy. It shows using t<sub>test</sub>, and it finds the value of t<sub>test</sub> is higher than t<sub>table</sub> at 5% and 1 % level significance. The result 2.11 < 10.613 > 2.90. In short, Ha (Alternative Hypothesis) is accepted and there is significant effect of "FRIEND" Strategy on Writing Skill in Argumentative Essay Development at Fourth Semester Students of English Education Study Program at IAIN Palangka Raya. In contrary, the Ho (Null Hypothesis) is rejected and there is no significant effect of "FRIEND" Strategy on Writing Skill in Argumentative Essay Development at Fourth Semester Students of English Education Study Program at IAIN Palangka Raya.

The correlation between the result and the theory stated by Faisal on the title his journal *FRIEND TO DEVELOP AN ARGUMENTATIVE ESSAY*: FRIEND is the systematic ways to help students when they write an argumentative essay with giving the think, express, and organize the ideas. It appropriates at the result of product writing of students, where FRIEND gives easier way to students when they wrote their writing than block pattern and point by point pattern. As long as teaching an argumentative essay at the class, the writer finds improvement of writing especially at the organization, content, and coherent area. In the organization area shows improvement as big as sum on 42.5 point from 382 to 424.5. Content is improvement as big as sum 69.5 point from 262.5 to 332. And coherent is 70.5 point from 251 to 321.5. The number of words also was improvement after giving treatment. There are some reasons why FRIEND becomes the easier strategy than two patterns before. They are the writing became organize, understandable, easier to think, and FRIEND has easier steps than patterns. The student more enjoy with their writing because they use the strategy that can control their ideas on writing process. It means that the student is more focus to develop the ideas to produce a good result of writing on argumentative essay be organize. Because from some problems of students, they are difficult to develop their idea and make their writing organize on the argumentative essay. It support on statement by Oshima and Houge said that argumentation is a famous essay where the student demanded to think on their own opinion or their statement, such as stand on issue, support their solid reasons, and solid evidence. It means that argumentative essay is challenges essay than others where as a writer can make a reader be persuading on our writing.

In addition, the writer explains each meeting on teaching using this strategy. First meeting, the writer asks some knowledge that they knew and what are problems that they have when write an argumentative. They mention some difficulties to organize their ideas with easily on their writing. The writer begins to explaining the argumentative essay with block pattern and point by point pattern and to introducing the model of essay. After that, the writer give test (Pretest) with test item that made an argumentative essay using one of pattern that their like. The finding is the lowest score: 62, the highest: 73, and mean: 66.42.

Second meeting, the writer repeats the explanation before and explanation with deeply about argumentative. Continually, socialization the FRIEND and explained what is the FRIEND, function of FRIEND, and how to applied FRIEND on their writing.

Third meeting on treatment, the writer back to explains the FRIEND with detail. After giving the explanation, the writer guided the students write an argumentative essay using FRIEND. In addition, the writer asked them what is the differences using pattern and FRIEND, where is easier both of them. The result is their product of writing experienced improving and their argument about the questions was FRIEND easier to write, the writing becomes organizing, understandable, easier to think, and FRIEND has easier steps than patterns.

Fourth meeting, making the student more understand about argumentative essay using FRIEND, the writer give explanation with specifically. The last, giving posttest find their result of product writing after giving treatment. The result is the lowest score: 71; frequency: , the highest: 85, and mean: 79.21. Therefore, the product writing of posttest there is improvement the numbers of words in each paragraph and the student more enjoy using FRIEND than patterns.